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BOOK REVIEWS.

RAUMÄSTHETIK UND GEOMETRISCH-OPTISCHE TÄUSCHUNGEN. Von *Theodor Lipps*.

Mit 183 Figuren und einer Tafel. Leipsic : Johann Ambrosius Barth. 1897.

Pages, 424. Price, 12 Marks.

Readers of the *Zeitschrift für Psychologie und Physiologie der Sinnesorgane* are already acquainted with the interesting views of Prof. Theodor Lipps of the University of Munich on optical illusions, the æsthetics of spatial form, etc., and all will be glad that the comprehensive researches of this psychological inquirer have now been gathered together into systematic form. Professor Lipps long ago sketched his ideas upon this subject in a memorial which formed part of the *Psychologische Festschrift* prepared in honor of the seventieth birthday of Professor Helmholtz, but owing to lack of time could necessarily do little more than adumbrate the scope and meaning of his new conception. That conception was that the optical and the æsthetic impressions which we receive from geometrical forms are but two several aspects of one and the same thing, and have their common root in the *percepts* which arise in us, of *mechanical "activities."* He has sought in the present volume to give to this idea more extended development, to define particularly what these "mechanical activities" are, and to derive from them a systematic theory of geometric-optical illusions. His method, he proclaims, is throughout a psychological as distinguished from a physiological method. Not that he is opposed to the principle of parallelism by which for every psychical phenomenon a corresponding physiological process is sought, but he maintains that the selection of the scientific description which is involved in the employment of either of these methods in preference to the other must be determined by the conditions of the case, and by the prospect which each offers of being more successful. In the present instance, he is unable to do more than to describe the phenomena in question from their psychological side, leaving the other task for further research. As a psychologist he is content to abide by his own department of inquiry, etc.

His claims to success are stated in no uncertain terms. He believes he has absolutely dispatched the problem of geometric-optical illusions, so far as matters of principle are concerned. In points of detail he may have erred, but taking his views as a whole he stakes his pretensions to the least power of scientific thought upon the successful issue of his inquiries. In passing it is to be remarked that he

has waived entirely the application of the theorems of mathematics, claiming that degrees of æsthetic mechanical perception are not measurable, any more than is the relation between the "psychical energy" of the percept and its optical effect. There is moreness and lessness in optical illusions, but their quantitative determination lends nothing to their psychological estimation. We shall endeavor to give by one example a notion of the method and foundation of his inquiry.

The example which Professor Lipps has chosen for his first chapter is that of the Doric column. The Doric column extends vertically upward into space. Its vertical upward extension into space is its peculiar and proper "activity," where, by "activity" is meant "endeavor," "expenditure of force resulting in the accomplishment of something." Antagonistic activity is not wanting here but really exists in the form of gravity, according as gravity is overcome. The downward factor of gravity is as real as the upward factor of extension, the activity which opposes gravity; but the factor by which the column is a column for us, by which, so to speak, it realises its peculiar characteristic existence, is its *upward*, column-constituting tendency. On the other hand, the column extends not only vertically, it extends also horizontally. Here, however, the achievement is not one of extension but one of compression or restriction. If it were not for the horizontal compression, for the horizontal restriction, the column would cease to be a column and would melt away into pure formlessness. Its horizontal extension, too, is in a sense an "activity," but it is not such to the specific extent in which the compressing and restricting factor is an activity. The tendency of the column to expand horizontally is the very tendency which the nature and existence of the column requires should be counteracted and checked. In this sense the restricting or compressing activity of the column is its *peculiar, characteristic* "activity." Taking both things together we discover that the factor which threatens its vertical existence is the same as the factor which threatens its horizontal existence. Gravity can annul both. But the horizontal compression is really the condition precedent of the vertical extension. Because the column is compressed together, for that reason it rises vertically upward in space, for that reason it preserves its essential existence as a column. And herein consists its essential activity. The column is not a thing which crumbles out horizontally beneath the effects of gravity, but it is a form of matter which despite gravity, and overcoming gravity, compresses itself together and rears itself aloft. Its living *activity*, so to speak, is its endeavoring, its struggling aloft. If we surrender ourselves to the sense-impression made by the column, if we ask ourselves what movement is it *on the verge* of performing, what movement is it *endeavoring* to perform, we shall see it growing thinner and thinner in imagination and rising higher and higher in a vertical straight line. The other impression cannot arise in us, and here we have the ground of a well-known optical illusion. We see the column, not with our physical eye, but with the eye of the imagination, ever reaching to a loftier height than it has in reality. We overestimate its height and underestimate its breadth. The sense-perception is correct, but

we have added to it a mechanical interpretation which springs from our emotional, anthropomorphic way of fashioning the world.

We have in this description, as Professor Lipps claims, a psychological fact which has two elements. The form of the column exists, for our perception, as the result of certain mechanical conditions. It not only is, but it becomes, not once, but in every instant anew. We give a mechanical interpretation of the column, not reflectively but immediately, as a matter of direct perception. But the mechanical happening without us is not the only happening involved in this phenomenon. There is also a happening within us to which the outward happening is comparable or analogous. Here, according to the author, is the origin of the notion of all force, of all endeavor in nature, and so in the factors which are at present under consideration the existence of the column as I perceive it appears to me, not by reason of any reflexion, but unconsciously and immediately in the very moment in which I perceive it, not only as conditioned by mechanical causes, but as conditioned by mechanical causes which are *like those underlying my own personal activity*. The column acts as I act when I pull myself together and rise from my seat, or as another human being acts when doing a like thing. I cannot perceive the column without picturing it as invested with the activities which I have experience of in myself.

Now from all this proceeds not the full æsthetic impression made upon me by the Doric column, but certainly a part of that impression. Its rising aloft, its endeavoring, fills me with the same joy as does my own, or as does that of another. I *sympathise* with its behavior, with its method of expressing its intrinsic character and life because I recognise in it a natural joy-giving form of conduct which is my own, and thus the feeling of joyous satisfaction at all spatial forms, and, the author adds, all æsthetic pleasure generally, is a beatifying, pleasure-giving feeling of sympathy.

We are unable for lack of space to follow Professor Lipps into his interesting discussions, many of which are familiar to our readers from former mention. The book abounds in figures, by experimenting with which the reader is lead under the guidance of the author's analysis to a theory of optical illusions and to a theory of the æsthetics of space. The subject is one in which not only the special psychologist is interested, but also the general scientific student, who will have the advantage of being able to make the experiments in question without apparatus or paraphernalia of any kind. The study is one of the widest scope and import, and involves educational elements of considerable significance. μκρκ.

EMPFINDEN UND DENKEN. Eine physiologische Untersuchung über die Natur des menschlichen Verstandes. By *Albrecht Rau*. Giessen : Emil Roth. 1896. Pages, 385.

The chief purpose of this volume is to investigate the so-called "law of specific sense-energies" as first enunciated in its simplest form by Albrecht von Haller,